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FILE 'MEDLINE, CANCERLIT, BIOTECHDS, EMBASE, BIOSIS' ENTERED AT 16:42:11
    ON 14 OCT 2003
L1
        540540 S ALCOHOL OR PVA OR ETHANOL
        130360 S MICROPARTICLE OR MICROCAPSULE OR MICROSPHERE OR NANOSPHERE OR
L2
L3
         46953 S ENCAPSULA?
L4
            388 S L3 AND L2 AND L1
           252 DUP REM L4 (136 DUPLICATES REMOVED)
L5
        205243 S AQUEOUS
L6
            63 S L6 AND L5
L7
=> s dna or nucleic or polynucleotide or plasmid
L8 2507479 DNA OR NUCLEIC OR POLYNUCLEOTIDE OR PLASMID
=> s 18 and 15
          34 L8 AND L5
=> d bib ab 1-34
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- L9 ANSWER 34 OF 34 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. on STN
- AN 1995:118919 BIOSIS
- DN PREV199598133219
- TI Microencapsulation of **DNA** within alginate microspheres and crosslinked chitosan membranes for in vivo application.
- AU Alaxakis, T.; Boadi, D. K.; Quong, D.; Groboillot, A.; O'Neill, I.; Poncelet, D.; Neufeld, R. J. (1)
- CS (1) Dep. Chem. Eng., McGill Univ., 3480 University St., Montreal, PQ H3A 2A7 Canada
- SO Applied Biochemistry and Biotechnology, (1995) Vol. 50, No. 1, pp. 93-106. ISSN: 0273-2289.
- DT Article
- LA English
- AB Calf thymus DNA was microencapsulated within crosslinked chitosan membranes, or immobilized within chitosan-coated alginate microspheres. Microcapsules were prepared by interfacial polymerization of chitosan, and alginate microspheres formed by emulsification/internal gelation. Diameters ranged from 20 to 500 mu-m, depending on the formulation conditions. Encapsulated DNA was quantified in situ by direct spectrophotometry (260 nm) and ethidium bromide fluorimetry, and compared to DNA measurements on the fractions following disruption and dissolution of the microspheres. Approximately 84% of the DNA was released upon core dissolution and membrane disruption, with 12% membrane bound. The yield of encapsulation was 96%. Leakage of DNA from intact microspheres/capsules was not observed. DNA microcapsules and microspheres were recovered intact from rat feces following gavage and gastrointestinal transit. Higher recoveries (60%) and reduced shrinkage during transit were obtained with the alginate microspheres. DNA was recovered and purified from the microcapsules and microspheres by chromatography and differential precipitation with ethanol. This is the first report of microcapsules or microspheres containing biologically active material (DNA) being passed through the

gastrointestinal tract, with the potential for substantial recovery.

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L9
      ANSWER 27 OF 34 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT/ISI on STN
AN
      1997-06331 BIOTECHDS
TI
      Preparation of polyvinyl alcohol particles
      encapsulating a magnetic colloid;
         for use in e.g. DNA purification and DNA
         sequencing
ΑU
      Mueller-Schulte D
PΑ
      Muller-Schulte D
PΙ
      DE 19528029 6 Feb 1997
ΑI
     DE 1995-1028029 31 Jul 1995
PRAI DE 1995-1028029 31 Jul 1995
     Patent
LA
      German
os
      WPI: 1997-120040 [12]
AB
      A method for the preparation of pearl shaped or spherical particles of
      polyvinyl alcohol (PVA) is claimed, in which a
      magnetic colloid is encapsulated in aq. PVA at room
      temp. and where the polymer phase is immiscible with the
      organic phase. At least 2 emulsifiers are present and during stirring of
      the suspension, a water soluble agent containing reactive hydroxy groups
      is added. These particles are used to fractionate cells, nucleic
      acids, proteins, viruses or bacteria, as well as for DNA
      sequencing, immunoassay or DNA synthesis (claimed). Using
      these particles, separation is easier and saves time compared to other
      methods. (11pp)
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